

REMARKS

This Amendment is filed in response to the Office Action dated December 30, 2003. Applicants initially note with appreciation the Examiner's thorough examination of the application as evidenced by the Office Action. In response to the Office Action, Applicants have amended Claims 1, 3, 7, and 13 and cancelled Claims 16-19. The claims were amended so as to more clearly define the claimed invention. Applicants respectfully submit that the amended claims are in condition for allowance and ask that the Examiner reconsider the claims in light of the remarks below.

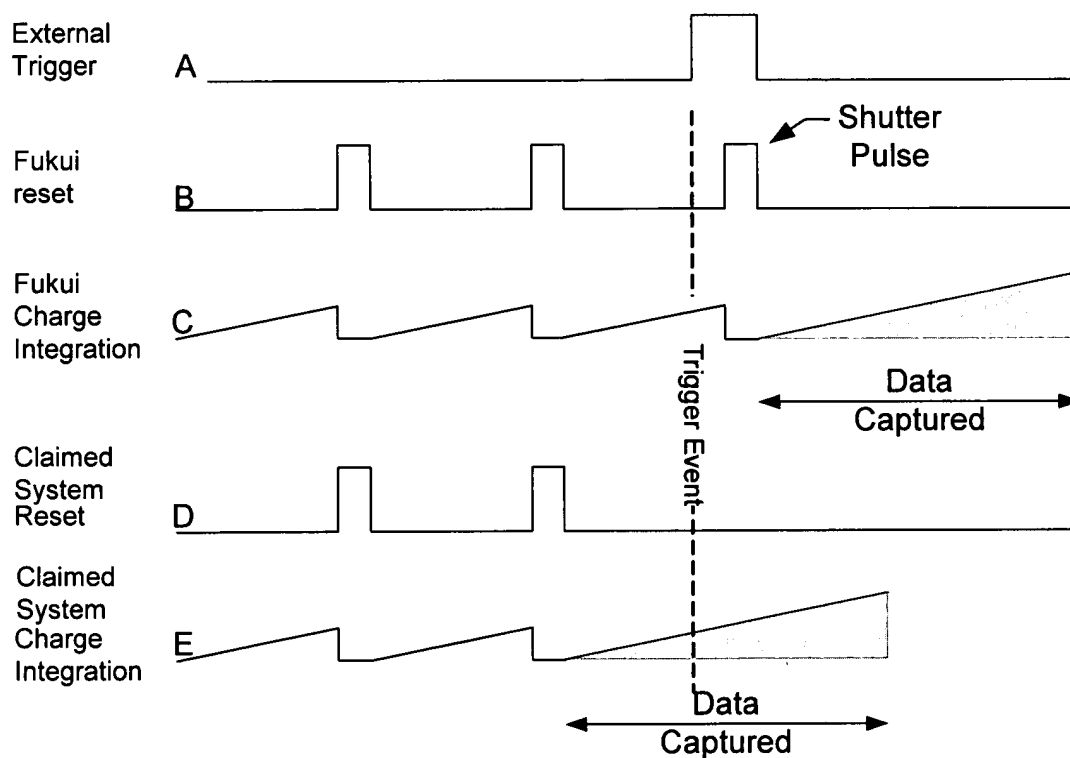
I. The Claims Are Patentable

In paragraphs four and five, the Office Action rejects Claims 1, 2, 5, 7-10, 12, 13, 16, 18, and 19 as anticipated by U.S. Patent No. 5,422,670 to Fukui. Further, the Office Action rejects the remaining claims 3, 4, 6, 11, 14, 15, and 17 as obvious in light of the '670 Fukui patent in combination with one or more of the following references: U.S. Patent No. 6,218,656 to Guidas and U.S. Patent No. 5,422,716 to Dempsey. Applicants respectfully disagree with these rejections as detailed below.

In responding to the Office Action, Applicants first wish to explain the differences between the claimed invention and the system of the '670 Fukui patent. There is a fundamental difference between the claimed system and that of the '670 Fukui patent in terms of image capture. Specifically, as recited in independent Claims 1, 3, 7, and 13, the claimed system captures and uses data before, during, and after a trigger event has occurred. Specifically, in the claimed system, the sensors gather data between pulse resets. If a trigger event is received, the system prohibits a reset, and the data from the image sensors occurring before, during, and after the trigger event is captured and stored for further use as the captured image. This aspect of the claimed invention is not taught or suggested by the '670 Fukui patent. Specifically, in the '670 Fukui system, after a trigger event is sensed, the system performs a "shutter pulse" that resets the sensors. (See '670 Fukui col. 1, lines 49-54). As such, in the '670 Fukui system, image data is only captured, stored, and used after the trigger event has occurred, not before and during the

trigger event. Image data occurring before and at the time of the trigger event is not stored and/or used by the system of the '670 Fukui patent.

The differences between the claimed invention and the system of the '670 Fukui patent are best illustrated by the Figure below. The Figure is a timing chart that illustrates the trigger event (Graph A), the timing operation of the '670 Fukui system (Graphs B & C), and the timing operation of the claimed invention (Graphs D & E). As illustrated in Graphs D & E, prior to the trigger event, the sensors capture image data. When the trigger event occurs, the system of the claimed invention prevents a reset from occurring (see Graph D; no reset after event trigger). As such, image data is captured and saved before, during, and after the trigger event. (See Graph E).



Unlike the claimed invention, the '670 Fukui patent nowhere teaches or suggests that image data captured by the image sensor . . . before the occurrence of the asynchronous stimulus, is stored and used in the acquisition of the image as is recited in independent Claims 1, 3, 7, and 13. Specifically, as plainly stated in the '670 Fukui patent, the system issues a "shutter pulse"

that resets the sensors when the trigger event occurs. (See '670 Fukui col. 1, lines 49-54). As illustrated in Graphs A, B, and C, the shutter pulse resets the image capture sensors after the trigger event occurs, such that only image data occurring after the trigger event is stored and used. This is also illustrated in Figure 6 of the '670 Fukui patent, where the shutter pulse is illustrated as occurring after the trigger event. Nowhere does the '670 Fukui patent, nor any of the other cited references, teach or suggest capturing and using image data occurring prior to the trigger event, as is recited in amended independent Claims 1, 3, 7 and 13.

In responding to Applicants most recent argument, the latest Office Action states that:

[it] would be inherent that during the period between reset pulses, i.e., when the reset is OFF, the image sensor would be integrating charges and only when the reset pulse is ON, the charges are being reset. If there were no integration of the charges during the interval between the reset pulses as argued by the applicant, there would be no need for continuous reset pulses.

Applicants agree that this would appear logical. However, this is not what the '670 Fukui patent teaches. As pointed out in our last response, the specification of the '670 Fukui patent states at col. 1, lines 31-34, "no electrical charges are stored in the CCD image sensor during the charge draining period, that is during the time period when the reset pulses are supplied" (making reference to Fig. 1C). This would appear to teach that no data is being collected during this time at all. It may be that the patentee meant to say that the sensor is still collecting a charge in the '670 Fukui patent, it is just not stored as part of the capture data. Either way, it is clear that the '670 Fukui patent does not teach or suggest capturing and using image data occurring prior to the event trigger, as is recited in independent Claims 1, 3, 7, and 13 of the present application. It is clear that the '670 Fukui patent purposefully teaches issuing a "shutter pulse" when the sensor detects movement to reset the camera before it begins to capture data so that data occurring before the triggering event is not captured and used as part of the saved image data, which is opposite to the operation of the claimed invention.

In light of the above, Applicants respectfully submit that independent Claims 1, 3, 7, and 13, as well as the claims that depend respectively therefrom, are patentable over the cited references.

Conclusion

In view of the amended claims and remarks presented above, it is respectfully submitted that all of the present claims of the application are in condition for immediate allowance. It is therefore respectfully requested that a Notice of Allowance be issued. The Examiner is encouraged to contact Applicants' undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

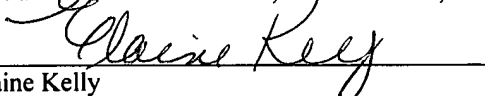


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I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on October 18, 2004


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